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Original Research Article

An overview of internet use among professionals of Moradabad: a critical appraisal

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ABSTRACT

Background: Internet is a boon and has certainly helped to bring the world closer. It has been a great medium for students to communicate and get information by transforming the academic landscape. However the excessive and undisciplined use of internet by individuals especially in the last decade, has led to the emergence of the concept of internet addiction. Therefore, a cross sectional study has been conducted to investigate the use of internet facility among undergraduate students from Teerthankar Mahaveer University using a validated questionnaire. There were about 42 million active internet users in urban India in 2008 when compared to 5 million in 2000. India now has the world's third-largest national digital population, with approximately, 159 million Internet users in 2014, which is projected to reach 314 million by 2017 (IMRB 2014). The aim was to study prevalence and pattern of internet usage among undergraduate students in Moradabad.
Methods: A cross sectional study was conducted among medical students (n=382) belonging to all the professionals of medical college, to assess the pattern of internet usage. A semi-structured proforma along with Young's internet addiction scale was used.
Results: Of the 382 adolescents who took part in the study, 150 (39.27%) were female and 232 (60.73%) were males. Their mean age was 16.20 years. Using Young's original criteria, 22 (5.76%) were found to be addicts, 230 (60.21%) were moderately addicted, 45 (11.78%) were average users while in 85 (22.25%) of student's internet use was less than average. Most of internet use was for social networking 183(47.9%), downloading media files 125 (32.7%), online gaming 45 (11.8%), academic purposes 10 (2.6%) and others 19 (5%). About 275 (72%) of the students were using smart phones to access the internet.
Conclusions: Most of the internet usage was for the purpose of social networking (Facebook, Whats App, Mails, etc). Availability of high speed free wi-fi internet on mobile phones as well as more reliance on virtual friendship than real may be the reason for spending more time on social network websites.

Keywords: Internet addiction, Professionals, Pattern, Prevalence

INTRODUCTION

World-wide internet penetration is 34.3% of population. In Asia, it has grown from 114 million internet users in December 2000 to 1.07 billion in June 2012; this shows that internet penetration in Asia is 27.5% of population.[1] Surveys in the United States and Europe have indicated alarming prevalence rates between 1.5% and 8.2%, respectively.[2] A research conducted by IAMAI (Internet And Mobile Association of India) and IMRB

International (Indian Market Research Bureau) in June 2013, indicates that the internet usage in India has gone up with more and more internet users using the internet on a regular basis. In June 2013, India had 190 Million internet users, of this; 130 million belonged to Urban India and the rest 60 Million were from rural India.[3]

Internet is being integrated as part of our every day's life because of its explosive growth especially in the last decade. Usage of internet has been growing constantly worldwide. Homes, schools, colleges, libraries and internet cafes are the places which are more accessible to internet nowadays. Completing schoolwork, playing online games, reading and writing emails and engaging in real time chatting are the common online activities. Internet use is having a huge impact on communication and interpersonal behavior. The effect of Internet addiction includes the impairment of academic performance, psychological well-being, poor dietary habits and interaction with peers and family members.[4]

The term "internet addiction" was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet use.[5] Internet addiction commonly refers to an individual's inability to control his or her use of the Internet (including any online-related, compulsive behavior), which eventually causes one's marked distress and functional impairment in daily life.

Young linked excessive internet use most closely to pathological gambling, a disorder of impulse control in diagnostic and statistical manual of mental disorders (DSM-IV) and adapted the DSM-IV criteria to relate to internet use in the internet addiction test (IAT) developed by her.[6]

The understanding that the internet use can be a disorder is still in its initial stages in India. There are limited numbers of studies estimating how common the issue of internet addiction is in India.[7] In a study carried out by Yadav et al, among high school students in Ahmadabad India, there was a strong positive correlation between internet addiction and depression, anxiety and stress.[8]

To understand the current status in India, this study reviews the prevalence and pattern of Internet addiction among students and compares it with that in other countries.

METHODS

This cross-sectional study was carried out in medical students of both sexes, belonging to the Teerthankar Mahaveer medical college in the city of Moradabad, Uttar Pradesh, India during the period of June—November 2016. It comprised about 500 students belonging to all the professionals, aged 16-24 years. All the students present at the time of study were given questionnaire after explaining the purpose of study and ensuring confidentiality. Around 456 participants were present, of which 409 returned filled questionnaires, 27 forms were incomplete. So the 382 were finally included in the study. Written informed consent was taken from all participants. Institutional Ethical Committee also gave its approval before starting the study. A pilot study was done on 20 students and subsequent suggestions were incorporated in the study.

Inclusion criteria

Inclusion criteria were medical students; both sexes; students aged between 16 and 24 years; history of using internet from past 1-year or more; willing to give consent.

Exclusion criteria

Exclusion criteria were not willing to give valid consent; not using internet.

Data collection

All questionnaires were given to the participants in classroom settings at a predetermined time after explaining the purpose of the study. Proforma were collected later on the same day. The questionnaires were anonymous and self-administered. The questionnaire contained three parts: 1. Socio-demographic information, 2. Details regarding patterns of internet use, and 3. Young's Internet Addiction Test (IAT). Data was tabulated using Microsoft office- Excel sheet. The responses obtained were expressed in proportions. The difference in the patterns of internet usage among males and females was analyzed by using Chi-square test.

Young initially developed eight questions internet addiction diagnostic questionnaire based on DSM-IV. Later, she included 12 new items in addition to the 8 items to formulate an IAT. It is a 20-item questionnaire measured on the five-point Likert Scale. After all the questions have been answered, numbers for each response are added to obtain a final score. The higher the score range, the greater the level of addiction; normal range: 0-30 points, mild: 31-49 points, moderate: 50-79 points, and severe: 80-100 points.[9] The excellent psychometric properties of the questionnaire are well-documented in the literature.[10] Young's IAT, developed for screening and measuring levels of Internet addiction, has been the most widely used and well-tested for its psychometric properties by Widyanto and McMurran.[11] The items of the IAT, each rated from 1 (rarely) to 5 (always), include compulsive behavior related to use of the Internet, the occupational or academic difficulties, lack of competence at home, problems in interpersonal relations, and emotional problems.[12] The scale showed very good internal consistency, with an alpha coefficient of 0.93 in the similar studies.[13]

The test measures the extent of addictive involvement with the computer and can be utilized among outpatient as well as inpatient settings and adapted accordingly to fit the needs of the clinical setting.[9]

RESULTS

The study questionnaire was administered to all the students of the medical college present at the time. Responses were obtained from 382 adolescents who took part in the study, among these 150 (39.27%) were female and 232 (60.73%) were males. Their mean age was 16.20 years. Average duration of daily usage of internet and its purpose is shown in Table 1.

Table 1: Frequency of participants according to age, religion, education, type of phone used, time spent on internet per day, internet addiction and severity of internet addiction (n=382).

Characteristics		N	%
Age (yrs)	16-20	286	74.87
	20-24	96	25.13
Sex	Male	232	60.73
	Female	150	39.27
Religion	Hindu	262	68.59
	Muslim	94	24.61
	Others	26	6.80
Type of phone used	Simple	85	22.25
	Smart	297	77.75
Daily internet usage (hrs)	1-3	222	58.12
	4-6	96	25.13
	>6	64	16.75
Purpose of internet usage	Social network	202	52.88
	Online games	40	10.47
	Media files	78	20.42
	Academic	44	11.52
	Others	24	6.28
Gadget to access internet	Desktop	8	2.10
	Laptop	72	18.85
	Smart phone	278	72.77
	Tablet	24	6.28
Total		382	100

Although majority of the medical students (58.12%) were using internet daily around 1-3 h but a large number (16.75%) were using it for more than a quarter of the day. Most of the time, internet use was used for social networking 183 (52.88%), downloading media files 78 (20.42%), online gaming 40 (10.47%), academic purposes 44 (11.52%) and others 24 (6.28%). About 278 (72.77%) of the students were using smart phones to access the internet (Table 1).

Using Young's original criteria, 22 (5.76%) were found to be addicts, 45 (11.78) were moderately addicted. 230 (60.21%) were average (mild) users while in 85 (22.25%) of student's internet use was less than average (Figure 1).

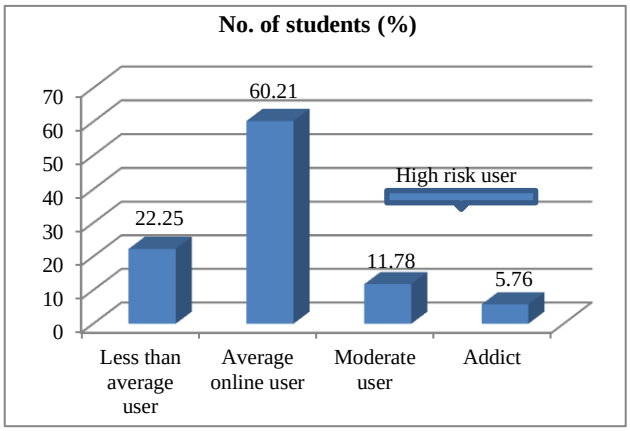

Figure 1: Prevalence of internet addiction.

As shown in Table 2, significant usage differences were evident based on the gender of user. Males in comparison to females were significantly more likely to be addicted (x2=8.07, p=0.005). More numbers of those using smart phones were addicted to the internet than those using simple phones ($\chi 2$=8.3, p=0.004). Significant relationship was also found among the age of the students aged and internet addiction, with younger age having more addiction ($\chi 2$=5.91, p=0.015). Internet addiction was higher in those spending more time on using internet per day, but it was not significant. Similarly the purpose of using internet has no significant association with its addiction [Table 2].

Table 2: Relationship of internet addiction with sex, age, type of phone used and time spent using internet.

Characteristics		Internet addiction		X^2	p-value	Odds ratio	95% CI
		High risk	Low risk				
Sex	Male (232)	51 (76.12)	181 (57.46)	8.07	0.0045	0.4238	0.2315-0.7756
	Female (150)	16 (23.88)	134 (42.54)				
Age (yrs)	16-20 (286)	58 (86.57)	228 (72.38)	5.91	0.0150	0.4067	0.1932-0.8561
	20-24 (96)	9 (13.43)	87 (27.62)				
Type of phone	Smart (297)	61 (91.04)	236 (74.92)	8.30	0.0039	0.2938	0.1223- 0.7059
	Simple (85)	6 (8.96)	79 (25.08)				
Total		67 (17.54)	315 (82.46)				

In the univariate analysis, it was further observed that internet addiction rate is correlated with being young (age less than 20 years), male gender and having a smart phone.

DISCUSSION

Observing the explosive growth in internet use, a number of studies have been conducted across the world, especially among adolescents. Our study was a step forward in the same direction, understanding the extent of internet addiction among medical college students.

In our study, the prevalence of internet addiction was 5.76%, which was in accordance with studies done in Indore and China.[15,16] A study done by Ghamari et al among Iranian medical students, had shown the overall prevalence of internet addiction to be 10.8% with moderate and severe internet addiction equal to 8% and 2.8%, respectively.[17] Similar findings were observed by Siomos et al[18] on Greek adolescent students, where the prevalence rate was 8.2%.

In contrast to our results, the studies done by Goel and Andurkar showed comparatively less addiction with only 0.7% and 1% students having severe addiction.[14,19]

In our study, moderate users and the possible addicts used the internet mostly for social networking (52.88%), downloading media files (20.42%), and online gaming (10.47%) when compared to academic purpose (11.52%), which was essential for medical students. Similar findings were observed in a study done by Goel et al.[14] About 72.77% of the students were using smart phones to access the internet which was similar to that reported in a study done in Guntur city (Table 1).[15]

Majority of the students of our study, (58.12%) were using internet daily around 1-3 h but a large number (16.75%) were using it for more than a quarter of the day. Similarly Grover et al reported more than half subjects (65.73%), to be using internet for at least 3 hours/day.[20]

The data available from the various community and online surveys suggest that internet addiction appears to have a male preponderance, which was observed in our study also.[15-19] This may be due to the gizmo friendly behaviour of males as well as their more interest in games. Among the other sociodemographic variables, Age less than 20 years was one of the other risk factors for internet addiction; younger students were at a significantly higher risk as compared with those over 20 years of age. Similar studies in India reported no significant association between age and internet addiction while other studies done in Taiwan and China, this disorder has shown a significant association with age.[21-24] Majority of students using smart phones were addicted to the internet than those using simple phones ($\chi 2=8.3$, $p=0.004$). Similar result was reported by Arwind et al among professional students in Jabalpur.[21]

In the bivariate analysis, it was further observed that internet addiction rate is correlated with being young, male and having a smart phone directly. In other studies, also similar results were obtained.[17,25]

The prevalence of internet addiction varies a lot from region to region depending on the criteria used and sample studied. But even among the studies using Young's IAT score have also come up with varied prevalence rates. This suggests that a simple instrument is not very reliable in picking up cases of Internet Addiction.

Internet usage for the purpose of social networking (Facebook, WhatsApp, Mails etc.) was very high among the medical students. Availability of high speed internet on mobile phones may be the reason for spending more time on social network websites. Though the level of serious addiction is low now, but because of the widespread and fast use of internet and computer, there is the threat that it's going to increase only in future. Since Internet addiction was related to male gender, age and smart phone, universities should try to educate the students to use internet meaningfully and appropriately. Also, the students should be encouraged to use internet for review of academic papers and cultural sites and use internet during their leisure time.

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